AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method comprising:

~~using a processor to~~ receiv[[e]]ing a sensor signal by a processor in communication with a memory, the sensor signal comprising a raw sensor value from a sensor, the raw sensor value associated with a position of a manipulandum in a range of motion;

~~using a processor to~~ calculat[[e]]ing an adjusted sensor value by the processor, the adjusted sensor value based at least in part on the raw sensor value and a compliance constant, the compliance constant predetermined based on a compliance between the sensor and the manipulandum; and

~~using a processor to~~ outputting an output signal by the processor, the output signal comprising the adjusted sensor value.

2. (Currently Amended) The method of claim 1, wherein the adjusted sensor value is calculated based at least in part on ~~compliance is associated with a compliance constant and~~ a current output force.

3. (Currently Amended) The method of claim 1, further comprising ~~using a processor to~~ determin[[e]]ing a closed-loop position-dependent force by the processor, the closed-loop position-dependent force based at least in part on the raw sensor value.

4. (Previously Presented) The method of claim 1, further comprising transmitting forces from an actuator to the manipulandum with a belt drive.

5. (Currently Amended) The method of claim 1, further comprising ~~using a processor to~~ filtering, by the processor, the raw sensor value for overshoot sensor values occurring at limits to the range of motion of the manipulandum.

6. (Currently Amended) The method of claim 1, further comprising ~~using a processor to~~ calibrat[[e]]ing, by the processor, the range of motion of the manipulandum by adjusting

minimum and maximum values of the range of motion based at least in part on an extent of motion of the manipulandum up to a designated time.

7. (Currently Amended) The method of claim 1, further comprising ~~using a processor to~~ normalize[[e]]ing, by the processor, the raw sensor value to a normalized range of motion, wherein the adjusted sensor value is further associated with the normalized raw sensor value.

8. (Currently Amended) A device comprising:

a manipulandum;

a linkage mechanism providing a degree of freedom to the manipulandum;

a sensor operable to sense a position of the manipulandum in the degree of freedom and to output a raw sensor value representing the position; and

a processor, operable to:

receive a sensor signal from the sensor, the sensor signal comprising the raw sensor value;

calculate an adjusted sensor value based at least in part on the raw sensor value and a compliance constant, the compliance constant predetermined based on a compliance between the sensor and the manipulandum; and

output an output signal comprising the adjusted sensor value.

9. (Previously Presented) The device of claim 8, wherein the linkage mechanism includes a chain of four rotatably-coupled members coupled to ground at each end of the chain.

10. (Previously Presented) The device of claim 8, further comprising an actuator coupled to the linkage mechanism, the actuator operative to output a force in the degree of freedom.

11. (Previously Presented) The device of claim 9, further comprising a belt drive transmission coupled between the actuator and the linkage mechanism.

12. (Previously Presented) The device of claim 8, wherein the sensor comprises a relative digital encoder.

13. (Previously Presented) The device of claim 8, wherein the sensor is coupled to the actuator such that the sensor is operable to detect rotation of a shaft of the actuator.

14. (Previously Presented) The device of claim 8, wherein the processor is operable to calibrate a range of motion of the manipulandum by adjusting minimum and maximum values of the range of motion based at least in part on an extent of motion of the manipulandum up to a designated time.

15. (Previously Presented) The device of claim 8 wherein the processor is operable to determine a closed-loop force based at least in part on the raw sensor value.

16-32. (Cancelled)

33. (Currently Amended) A non-transitory computer-readable medium on which is encoded program code configured to cause a processor to execute a method comprising:

receiving a sensor signal comprising a raw sensor value from a sensor, the raw sensor value associated with a position of a manipulandum in a range of motion;

calculating an adjusted sensor value based at least in part on the raw sensor value and a compliance constant, the compliance constant predetermined based on a compliance between the sensor and the manipulandum; and

outputting an output signal comprising the adjusted sensor value.

34. (Currently Amended) The non-transitory computer-readable medium of claim 33, wherein the adjusted sensor value is calculated based at least in part on ~~compliance is associated with a compliance constant and~~ a current output force.

35. (Previously Presented) The non-transitory computer-readable medium of claim 33, further comprising determining a closed-loop position-dependent force based at least in part on the raw sensor value.

36. (Previously Presented) The non-transitory computer-readable medium of claim 33, further comprising transmitting forces from an actuator to the manipulandum with a belt drive.

37. (Previously Presented) The non-transitory computer-readable medium of claim 33, further comprising filtering the raw sensor value for overshoot sensor values occurring at limits to the range of motion of the manipulandum.

38. (Previously Presented) The non-transitory computer-readable medium of claim 33, further comprising calibrating the range of motion of the manipulandum by adjusting minimum and maximum values of the range of motion based at least in part on a extent of motion of the manipulandum up to a designated time.